

REMARKS

The above amendments and the following remarks are fully and completely responsive to the Office Action dated April 30, 2003. Claims 1-6 and 8-13 are pending in this application. In the outstanding Office Action, claim 13 was rejected under 35 U.S.C. § 112, first paragraph; claims 1-6 and 8-13 were objected to; claims 1-6 and 8-13 were rejected under 35 U.S.C. § 102(e); and claims 1-6 and 8-13 were rejected under 35 U.S.C. § 103(a) (two different rejections). No new matter has been added. Claims 1-6 and 8-13 are presented for reconsideration.

35 U.S.C. § 112, First Paragraph

Claim 13 was rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 13 has been amended such that this claim is fully enabled by the specification. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 13 under 35 U.S.C. § 112, first paragraph.

Claim Objections

Claims 1-6 and 8-13 were objected to for the formal reasons set forth in the Office Action. Applicants have amended claims 1 and 8 to correct the informalities set forth in the Office Action. Accordingly, Applicants respectfully request reconsideration and withdrawal of the objection to claims 1-6 and 8-13.

Applicants note that the claim objection was directed to claims 1-6 and 7-13. Claim 7, however, was previously cancelled. Accordingly, Applicants have treated this objection as pertaining to claims 1-6 and 8-13, which are present in the present application.

35 U.S.C. § 102(e)

Claims 1-6 and 8-13 were rejected under 35 U.S.C. § 102(e) as being anticipated by Hamagishi (U.S. Patent No. 6,049,424). In making this rejection, the Office Action asserts that this reference teaches each and every element of the claimed invention. Applicants respectfully request reconsideration of this rejection.

Claim 1 recites an autostereoscopic image display device. The device includes an image display means for displaying a left eye image and a right eye image in alternately forming stripe-shaped patterns upon a liquid crystal display panel. A sensor senses a position of a head of a viewer. A shading means includes a plurality of continuous shading parts and liquid crystal shutters provided on both sides of the continuous shading part, the liquid crystal shutters turning on and off based upon the position of the head of the viewer to generate a binocular parallax effect. An area shifting and division control means divides the shading means into areas in a horizontal direction and controls shifting of the liquid crystal shutters in each of the areas, each area including a plurality of continuous shading parts.

Hamagishi teaches a three dimensional display device. This device, however, fails to teach and/or suggest an area shifting and division control means for dividing the

shading means into areas in a horizontal direction. Accordingly, Applicants respectfully request reconsideration of this rejection.

As illustrated in Figure 21 and elsewhere in Hamagishi, this reference teaches shifting the liquid crystal shutters across the entire display. Hamagishi, however, fails to disclose the function of dividing the shading means into areas in a horizontal direction.

Same & like

For example, Figures 10 and 11 of the present specification illustrate dividing the display into three regions. Figures 16-20 illustrate division into two areas. Figure 16 also illustrates, and as described in the specification describing Figure 16, an area referred to as 5 in the figure is formed when the barrier is not shifted in the H1 area, but is shifted in the H2 area (see page 28, beginning at line 20). Hamagishi only teaches shifting the liquid crystal shutters in a consistent manner across the entire shading device. In contrast, the present specification describes, and the present claims recite, the function of dividing the shading means into areas in a horizontal direction and controlling shifting of the liquid crystal shutters in each of the areas.

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Therefore, Hamagishi fails to teach and/or suggest the claimed invention. Specifically, this reference fails to teach an area shifting and division control means for dividing the shading means into areas in a horizontal direction and controlling shifting of the liquid crystal shutters in each of the areas.

35 U.S.C. § 103(a)

Claims 1, 3, 5, 6, 8-9 and 11-13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Isono (U.S. Patent No. 5,315,377) in combination with Chikazawa (U.S. Patent No. 5,900,972). In making this rejection, the Office Action asserts that the

combination of these two references teaches and/or suggests the claimed invention. The Office Action also asserts that the combination of these two references would be obvious to one of ordinary skill in the art.

Isono, similar to Hamagishi, teaches that in response to the barrier movement command, the controller 22 drives the drivers 24 and 26 in such a manner that the parallax barrier displayed on the panel 28 is shifted to the right or left by a distance corresponding to one pixel in a real-time manner (column 7, lines 12-17; column 11, lines 49-54). This reference, however, fails to teach and/or suggest dividing panel 28 into two or more areas and controlling the shifting of the liquid crystal shutters in each of separate areas of barrier 28.

Please see Fig. 6A

Accordingly, Isono fails to teach and/or suggest the claimed invention. Specifically, this reference fails to teach and/or suggest an area shifting and division control means for dividing the shading means into areas in a horizontal direction and controlling shifting of the liquid crystal shutters in each of the areas.

The Office Action admits that Isono does not teach explicitly that the parallax barrier may be comprised of liquid crystal shutters at two sides of a continuous shading part. The Office Action cites Chikazawa as teaching strips of liquid crystal shutters (39 and 40, Figure 13) to correct this deficiency in Isono. The Office Action also asserts that it would have been obvious to one of ordinary skill in the art to have a continuous shading part of the barrier. The Office Action asserts that such a modification would be obvious since one could make one part of the panel or one set of shutters to be always at a nontransparent or off state.

While Chikazawa may correct part of the deficiency noted by the Office Action in Isono, this reference is not cited for, nor does it teach, the function of dividing the shading means into areas in a horizontal direction and controlling shifting of the liquid crystal shutters in each of the areas.

It appears that the Office Action is taking official notice that it would be obvious to one of ordinary skill in the art to make one part of the panel to be at an always nontransparent or off state. Applicants respectfully request that at least one reference be provided showing that such a modification would be considered obvious to one of ordinary skill in the art.

The combination of Isono and Chikazawa fails to teach and/or suggest each element of the claimed invention. Specifically, the combination of these two references fails to teach and/or suggest an area shifting and division control means for dividing the shading means into areas in a horizontal direction and controlling shifting of the liquid crystal shutters in each of the areas. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1, 3, 5, 6, 8-9 and 11-13 under 35 U.S.C. § 103(a).

Claims 2, 4, and 10 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Isono and Chikazawa (discussed above) and further in view of Taniguchi (U.S. Patent No. 6,094,216). In making this rejection, the Office Action asserts that the combination of these three references teaches each and every element of the claimed invention and that it would be obvious to one of ordinary skill in the art to combine these three references.

While Taniguchi may correct the deficiencies noted by the Examiner in the combination of Isono and Chikazawa, this reference is neither cited for, nor does it teach and/or suggest, an area shifting and division control means for dividing the shading means into areas in a horizontal direction and controlling shifting of the liquid crystal shutters in each of the areas.

Accordingly, the combination of these three references fails to teach each and every element of the claimed invention. Specifically, the combination of these three references fails to teach and/or suggest an area shifting and division control means for dividing the shading means into areas in a horizontal direction and controlling shifting of the liquid crystal shutters in each of the areas. Therefore, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 2, 4 and 10 under 35 U.S.C. § 103(a).

Conclusion

Applicants' amendments and remarks have overcome the objections and rejections set forth in the Office Action dated April 30, 2003. Specifically, Applicants' amendments and remarks have overcome the rejection of claim 13 under 35 U.S.C. § 112, first paragraph. Applicants' amendments to claims 1 and 8, together with Applicants' remarks, overcome the objection of claims 1-6 and 8-13. Applicants' remarks have distinguished the claimed invention from Hamagishi and thus overcome the rejection of claims 1-6 and 8-13 under 35 U.S.C. § 102(e). Applicants' remarks have also distinguished claims 1, 3, 5, 6, 8-9 and 11-13 from the combination of Isono and Chikazawa and thus overcome the rejection of these claims under 35 U.S.C.

§ 103(a). Applicants' remarks have also distinguished claims 2, 4 and 10 from the combination of Isono, Chikazawa and Taniguchi and thus overcome the rejection of these claims under 35 U.S.C. § 103(a). Accordingly, claims 1-6 and 8-13 are in condition for allowance. Therefore, Applicants respectfully request consideration and allowance of claims 1-6 and 8-13.

Applicants submit that the application is now in condition for allowance. If the Examiner believes the application is not in condition for allowance, Applicants respectfully request that the Examiner contact the undersigned attorney by telephone if it is believed that such contact will expedite the prosecution of the application.

The Commissioner is authorized to charge payment for any additional fees which may be required with respect to this paper to our Deposit Account No. 01-2300, **making reference to attorney docket number 107336-00008**.

Respectfully submitted,



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